

ABSTRACT

Changes in fluid volume in a thoracic region, such as the lung, are detected by internally injecting a current through the region, detecting an induced voltage on the skin of the patient, and calculating an impedance value. A method for performing such a

5 measurement includes injecting an electrical current between first and second internal electrodes that are implanted in the body and that are positioned such that a portion of the injected current flows through at least a portion of the region. The method also includes measuring a voltage between first and second external electrodes attached to an external surface of the skin of the body. The measured voltage is induced by the injected current.

10 The method also includes calculating an impedance by taking the ratio of the measured voltage and the injected current, wherein the calculated impedance is related to the volume of fluid in the region.

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